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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,994	07/11/2003	William R. Schutt	M1007/20006	4241

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EXAMINER

BELL, BRUCE F

ART UNIT PAPER NUMBER

1746

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,994

Applicant(s)

SCHUTT, WILLIAM R.

Examiner

Bruce F. Bell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/9/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Features 56a and 34 are not disclosed in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

Page 11, line 5; "cable 22" should be "cable 44".

Page 11, line 24; "upper flange 64a" should be "upper flange 62a".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schutt et al (4442903) in combination with Wright et al (4871328).

Schutt et al disclose a cathodic protection system for boreholes, buried corrosion prone structures and pipelines. See col. 3, lines 29-31. The cathodic protection system comprises a rectifier/controller unit mounted above ground at a remote location from the anode assembly but connected thereto, via its positive terminal. See col. 3, lines 32-36. the anode assembly is disposed within the bore hole 22 (in pipeline) adjacent the structure to be protected. The negative side of the rectifier is connected to the structure (pipeline) to complete the impressed current path. See col. 3, lines 36-40. The anode 40 includes an upper end 46 and a lower end 48. The upper end 46 is electrically connected to a flexible electrical conductor or cable 47 at a splice joint and the lower end 48 of the anode is connected to an electrical conductor or cable 54 at a second splice joint. The splices can be effected by soldering or crimping. A waterproof insulating material (heat shrinkable plastic sleeve) is placed over the splice. The conductor 47 extends upward from the anode 40 through a conduit 42 to the top of the bore hole (in the top of the pipe for a pipeline) for electrical connection to the positive

terminal of the current source which is disposed remotely from the anode. See col. 4, lines 43-67. The anode wire can be an suitable material such as niobium, tantalum, titanium or platinum coated titanium. See col. 4, lines 40-42. The anode assembly is of the replaceable type. See col. 4, lines 31-32. The conduits 41-43 each comprise a continuous length of flexible tubing that is tough, yet flexible, and corrosion resistant. See col. 5, lines 10-17.

Schutt et al does not disclose a first and second removable pressure seal fitting.

Wright et al discloses a seal housing that hermetically seals the electrical connections. The connector includes a malleable flange which is adapted to be hermetically sealed between two housings which protect wires connected to a speed sensor. The flange is hermetically sealed between a tongue on one housing and a groove in the other housing. The sealing flange extends radially from the central axis of the connector and is compressed by the tongue of a releasable housing into the groove of a permanent housing to form a hermetic seal. The flange supports the electrical insulator which holds electrically conducting inner contacts in position to be slideably mounted into outer contacts which are supported by the connector housing. See abstract. The seal housing made in such a manner hermetically seals the electrical contacts but allows the damaged seals or contacts to be replaced. See col. 2, lines 18-29. The seals are capable of withstanding high pressures as seen by way of the leakage test. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though

the prior art of Schutt et al does not teach the first and second removable pressure seal fitting, it would have been within the ability of the person having ordinary skill in the art to use such a seal in pipelines to seal the water or other constituents from getting to the electrical connections. Even though Schutt et al is primarily directed to a bore hole in the ground, Schutt et al does disclosed that this system could be used in pipelines to protect the pipes. Therefore, one having ordinary skill in the art knows that when water or other fluid medium is used, that the electrical connections must be sealed from the fluid medium getting to the connections so that short circuiting will not happen. Therefore, the it would have been obvious to use the seal as set forth in Wright et al, since Wright et al discloses a hermetic seal that is used specifically for sealing electrical connections and which will have the ability of sealing under high pressures. Since pipelines are particularly used in deep sea applications, one having ordinary skill in the art would be motivated to use such sealing device as set forth in Wright et al to seal the electrical connections as set forth in the Schutt et al patent for the purpose of preventing leakage of water into the electrical connections even under high pressures, when the Schutt et al cathodic protection system is used in pipeline applications. The dependent limitation with respect to the anode wire having a copper core is conventional in the art and is normally coated with titanium.

Therefore, the prior art of Schutt et al in combination with Wright et al renders the applicants instant claims as obvious.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar (5176807) in combination with Schutt et al (4442903) and Wright et al (4871328).

Kumar discloses a cathodic protection anode for a tank that has an anode which comprises a long extendible coil of wire of a metal coated with an electrically conductive ceramic. See abstract. The anode assembly is installed into a threaded port in the top. The anode is in the form of a titanium wire coated with an electrically conductive ceramic that has a straight upper segment, a coiled intermediate segment and a straight lower segment. See col. 4, lines 43-50. An electrical lead connects the terminal to the positive DC voltage output of a control circuit, while another electrical lead connects the steel shell to the negative DC voltage output of the control circuit. The control circuit can be powered by an AC source. See col. 4, lines 60-65. The anode wire can be a substrate core of a valve metal, a copper wire with titanium coating. A ceramic oxide coating can be a transition metal oxide or noble metal oxide, which exhibit electrical conductivity. Mixed metal anodes are also disclosed. See col. 5, lines 28-66.

Kumar does not disclose the pressure seal fitting or a pipeline.

Schutt et al and Wright et al are as disclosed above with respect to the 35 USC 103 rejection above.

The subject matter as a whole would have been obvious at the time the instant invention was made because even though the prior art of Kumar does not disclose the cathodic protection system being used in a pipeline, one having ordinary skill in the art would recognized that such a system is capable of being used in another application where water is contained, so as to protect the internal volume of the container. Kumar shows that their anode assembly is sealed at the top of the water tank but does not disclose the pressure seal as set forth by applicant's. The prior art of Wright et al shows such a seal for the purpose of sealing the electrical connections through the use of a hermetic seal formed by a housing having a flange that seals between the two housings. The prior art of Schutt et al is disclosed for the showing that it is known in the art to use flexible anode assemblies having two ends and having the anode housing made of a flexible plastic conduit and having a waterproof material that seals. Further Schutt et al discloses the electrical connections being made to a rectifier. One having ordinary skill in the art has the ability to make the electrical connections of the anode assembly to the rectifier and would have the knowledge of connecting the assembly having one end or two ends, to complete the circuit as shown by both Schutt et al (having two ends) and Kumar (having one end). The anode housing being of perforated plastic to allow access of fluid to the anode assembly or being made of a porous electrically conductive ceramic, both of which have

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resistance to corrosion, is within the ability of the person having ordinary skill in the art. The materials for the anode assembly are disclosed in both Kumar and Schutt et al and are conventional materials in the art for the purpose of cathodic protection. Therefore, the prior art of Kumar in combination with Schutt et al and Wright, render that applicants instant invention obvious for the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BFB
September 27, 2005


Bruce F. Bell
Primary Examiner
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